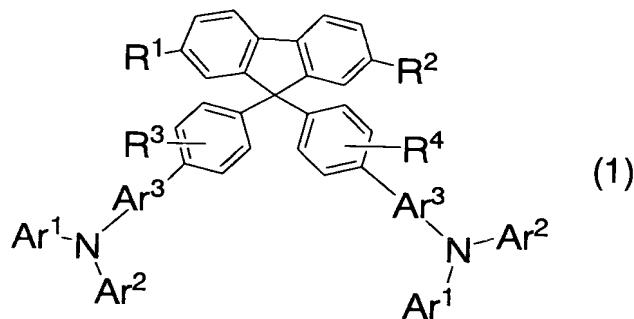


**WHAT IS CLAIMED IS:**

1. An arylamine derivative represented by the general formula (1):

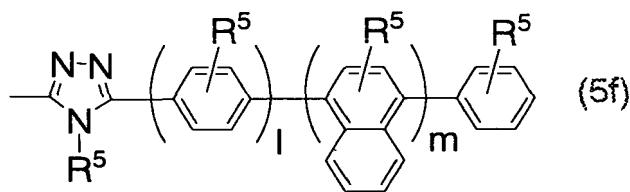
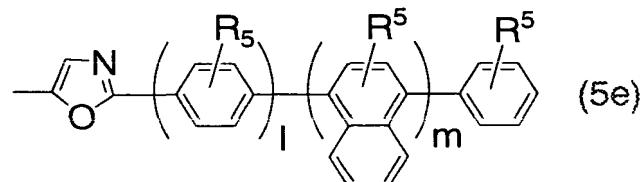
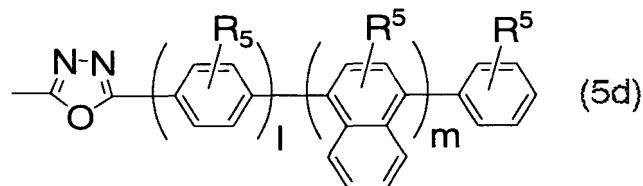
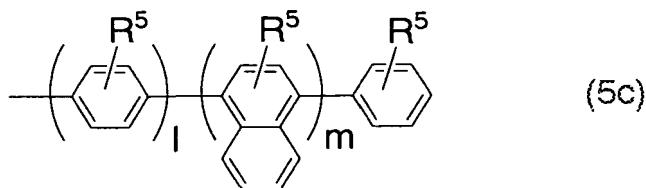


wherein R<sup>1</sup> to R<sup>4</sup> each independently represents a hydrogen atom, a linear, branched or cyclic alkyl group or alkoxy group, an aryl group, an aryloxy group, a halogen atom, an amino group, or a group represented by the following general formula (2), (3) or (4); Ar<sup>1</sup> and Ar<sup>2</sup> each independently represents a substituted or unsubstituted aryl group or hetero-aromatic group, and Ar<sup>1</sup> and Ar<sup>2</sup> may form a nitrogen-containing heterocyclic ring together with the nitrogen atom to which Ar<sup>1</sup> and Ar<sup>2</sup> bond; and Ar<sup>3</sup> represents a substituted or unsubstituted arylene group:



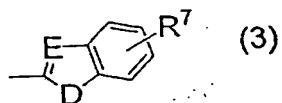
wherein Y represents a group represented by any one of the following general formulae (5a) to (5f); and W represents a hydrogen atom or a substituted or unsubstituted aryl group:



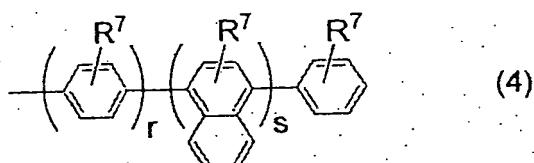


wherein R<sup>5</sup>'s may be the same or different and each represents a hydrogen atom, a linear, branched or cyclic alkyl group or alkoxy group, an ester group, a hydroxyl group, a halogen atom, a cyano group, a nitro group, an amino group, an aryl group, or an aryloxy group; E represents -CR<sup>6</sup>- or a nitrogen atom; D represents any one of an oxygen atom, a nitrogen atom, or a sulfur atom; R<sup>6</sup> represents a hydrogen atom, a linear, branched or cyclic alkyl group, an aryl group, an amino group, a cyano group, a nitro group, a hydroxyl group, or a halogen atom; and l and m each represents an integer of from 0 to 4,

satisfying the relation of  $(l + m) \leq 4$ :



or



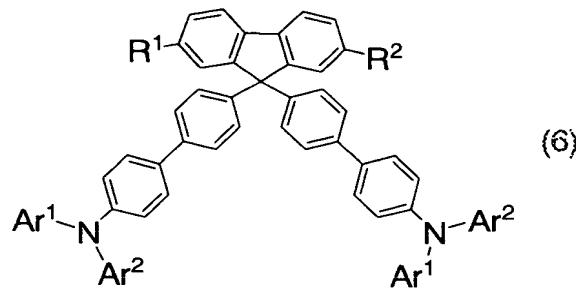
wherein  $R^7$ 's may be the same or different and each represents a hydrogen atom, a linear, branched or cyclic alkyl group or alkoxy group, an ester group, a hydroxyl group, a halogen atom, a cyano group, a nitro group, an amino group, an aryl group, or an aryloxy group;  $E$  represents  $-CR^8-$  or a nitrogen atom;  $R^8$  represents a hydrogen atom, a linear, branched or cyclic alkyl group, an aryl group, an amino group, a cyano group, a nitro group, a hydroxyl group, or a halogen atom;  $D$  represents any one of an oxygen atom, a nitrogen atom, or a sulfur atom; and  $r$  and  $s$  each represents an integer of from 0 to 4, satisfying the relation of  $(r + s) \leq 4$ .

2. The arylamine derivative as claimed in claim 1, wherein in the general formula (1), at least one of  $Ar^1$  and  $Ar^2$  represents a substituted or unsubstituted condensed ring aromatic group.

3. The arylamine derivative as claimed in claim 2, wherein the condensed ring aromatic group represents a 1-naphthyl group, a 9-phenanthryl group, or a 2-fluorenyl group.

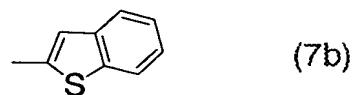
4. The arylamine derivative as claimed in claim 1, wherein in the general formula (1),  $\text{Ar}^3$  represents a phenylene group.

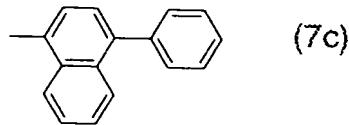
5. The arylamine derivative as claimed in claim 4, wherein in the general formula (1),  $\text{R}^3$  and  $\text{R}^4$  each represents a hydrogen atom, and which is represented by the following general formula (6):



6. The arylamine derivative as claimed in claim 1, wherein in the formula (1),  $\text{R}^1$  and  $\text{R}^2$  each represents the group represented by the general formula (2);  $\text{Y}$  is represented by any one of the general formulae (5a) to (5c); and  $\text{W}$  represents a hydrogen atom or an unsubstituted phenyl group.

7. The arylamine derivative as claimed in claim 6, wherein  $\text{Y}$  represents any one of the following general formulae (7a) to (7c):





8. The arylamine derivative according to claim 6, wherein W represents a hydrogen atom.
9. The arylamine derivative as claimed in claim 1, wherein in the general formula (1), R<sup>1</sup> and R<sup>2</sup> each represents the group represented by the general formula (3); E represents -CH-; and D represents a sulfur atom.
10. The arylamine derivative as claimed in claim 1, having an amorphous structure.
11. The arylamine derivative as claimed in claim 2, having an amorphous structure.
12. The arylamine derivative as claimed in claim 3, having an amorphous structure.
13. The arylamine derivative as claimed in claim 4, having an amorphous structure.
14. The arylamine derivative as claimed in claim 5, having an amorphous structure.

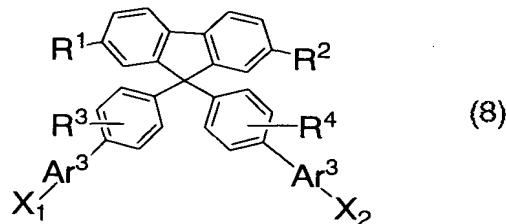
15. The arylamine derivative as claimed in claim 6, having an amorphous structure.

16. The arylamine derivative as claimed in claim 7, having an amorphous structure.

17. The arylamine derivative as claimed in claim 8, having an amorphous structure.

18. The arylamine derivative as claimed in claim 9, having an amorphous structure.

19. A process of producing the arylamine derivative as claimed in claim 1, which comprises reacting a di(haloaryl)fluorene represented by the following general formula (8):



wherein R<sup>1</sup> to R<sup>4</sup> and Ar<sup>3</sup> each represents the same substituent as defined previously; and X<sup>1</sup> and X<sup>2</sup> each represents a chlorine atom, a bromine atom, or an iodine atom, and an amine compound represented by the following general formula (9):



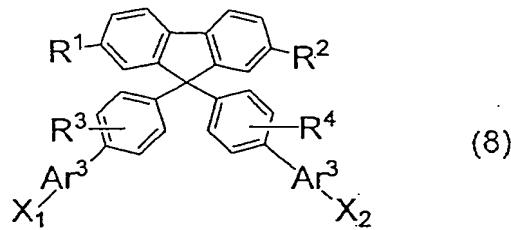
wherein  $\text{Ar}^1$  and  $\text{Ar}^2$  each represents a substituted or unsubstituted aryl group or hetero-aromatic group, and  $\text{Ar}^1$  and  $\text{Ar}^2$  may form a nitrogen-containing heterocyclic ring together with the nitrogen atom to which  $\text{Ar}^1$  and  $\text{Ar}^2$  bond, in the presence of a base using a palladium catalyst.

20. The process of producing the arylamine derivative as claimed in claim 19, wherein the palladium catalyst is a catalyst comprising a tertiary phosphine and a palladium compound.

21. The process of producing the arylamine derivative as claimed in claim 20, wherein the tertiary phosphine is tri-tert-butylphosphine.

22. An organic electroluminescence device comprising the arylamine derivative as claimed in claim 1 in any one of a luminescent layer, a hole transport layer, and a hole injection layer.

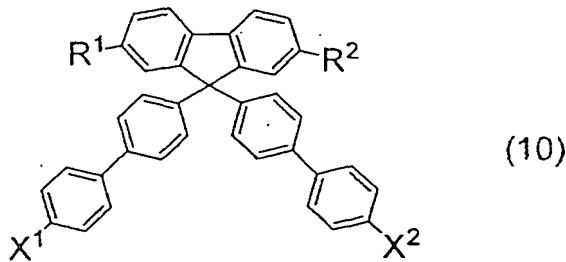
23. A di(haloaryl)fluorene derivative represented by the following general formula (8):



wherein  $\text{R}^1$  to  $\text{R}^4$  and  $\text{Ar}^3$  each represents the same substituent as defined previously; and  $\text{X}^1$  and  $\text{X}^2$  each represents a chlorine atom, a bromine atom, or an iodine atom.

24. The di(haloaryl)fluorene derivative as claimed in claim 23, wherein in the general formula (8),  $\text{Ar}^3$  represents a phenylene group.

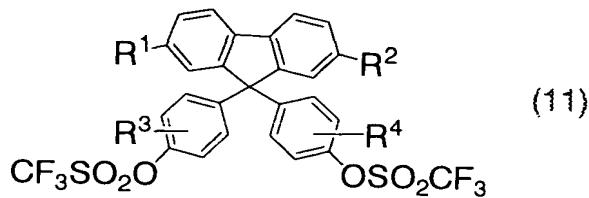
25. The di(haloaryl)fluorene derivative as claimed in claim 24, wherein in the general formula (8),  $\text{R}^3$  and  $\text{R}^4$  each represents a hydrogen atom, and which is represented by the following general formula (10):



26. The di(haloaryl)fluorene derivative as claimed in claim 23, wherein  $\text{X}^1$  and  $\text{X}^2$  each represents a chlorine atom.

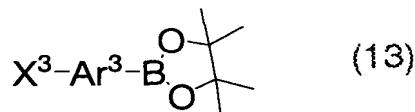
27. The di(haloaryl)fluorene derivative as claimed in claim 23, wherein  $\text{R}^1$  and  $\text{R}^2$  each independently represents a hydrogen atom, an iodine atom, a bromine atom, or a chlorine atom.

28. A process of producing the di(haloaryl)fluorene derivative as claimed in claim 23, which comprises reacting a fluorene derivative represented by the following general formula (11):



wherein  $R^1$  to  $R^4$  each represents the same substituent as defined previously,

and an aryl boronic acid represented by the following general formula (12) or (13):



wherein  $X^3$  represents a halogen atom;  $R^9$  represents a hydrogen atom, a methyl group, or an ethyl group; and  $Ar^3$  represents a substituted or unsubstituted arylene group, in the presence of a base and a palladium catalyst.

29. The process of producing the di(haloaryl)fluorene derivative as claimed in claim 28, wherein in the general formula (12),  $X^3$  represents a chlorine atom, and  $R^9$  represents a hydrogen atom.